

Index to volume 30 (1990)

Articles (titles in italics refer to Research and technical notes)

January (pp 1–88)

- Magnetic flux pinning properties of oxide superconductors by melt process
K. Matsumoto, H. Kikuchi, N. Uno and Y. Tanaka 5–10
- Preparation of the single high T_c phase samples of the Bi-Pb-Sr-Ca-Cu-O superconductors
V. Plecháček, H. Hedjová and Ž. Trejbalová 11–13
- Thermal conductivity of normal and superconducting metals
K. Gloos, C. Mitschka, F. Pobell and P. Smeibidl 14–18
- Quench stress and training of short superconducting samples
I.L. Maksimov 19–26
- Analytical method for calculation of critical energy of technical superconductors taking into account transient heat transfer
L. Malinowski 27–31
- Variational principle for critical heat of quench in partially stabilized superconducting magnets
V.R. Chechetkin, V.S. Lutovinov and A.Yu. Turynin 32–36
- Normal zone propagation in adiabatic superconducting magnets over the temperature range 4.2–80 K
Y. Iwasa and Y.M. Butt 37–40
- Superconducting magnet for high speed ground transportation
E.Yu. Klimentko, S.I. Novikov, V.I. Omelyanenko and S.A. Sergeev 41–45
- Transition currents of superconducting magnet system
V.V. Andrianov, V.P. Baev, S.S. Ivanov, R.G. Mints and A.L. Rakhmanov 46–48
- Development of a single-stage pulse tube refrigerator capable of reaching 49 K
Jingtao Liang, Yuan Zhou and Wenyi Zhu 49–51
- Installation for producing low temperatures in the 0.028–4.2 K range
A.N. Chernikov and Yu.F. Kiselev 52–55
- Problems of cooling and temperature measurement on objects in cryogenic optical studies
A.I. Belyaeva, T.G. Litvishkova, S.N. Marushko, V.I. Sirenko and V.P. Yuryev 56–64
- Liquid helium cooled sample stage for the investigation of microwave irradiated samples by scanning electron microscopy
Th. Doderer, H.G. Werner, R. Moeck, C. Becker and R.P. Heubener 65–67
- Particle initiated flashover in liquid nitrogen
A. Jaksts and B. Mazurek 68–71
- Cryoresistive gas insulated line
K. Hidaka, S. Matsumoto and T. Kouno 72–73

Measurements of high thermal conductivity for construction of a resonator

- P. Pengo, P. Favaron, P. Buso, L. Badan and S. Marigo 74–76
- Detecting superleaks in a dilution refrigerator
E. Suauadeau and E.D. Adams 77

February (pp 89–160)

- Use of RF SQUID for electrical resistance measurements up to 30 K with high temperature superconductor wiring
J. Romero, T. Fleischer and R. Huguenin 91–93
- Current characteristics of $\text{Bi}_{1-x}\text{Pb}_{0.5}\text{Sr}_2\text{Ca}_2\text{Cu}_3\text{O}_y$ superconductors prepared by the cast annealing method
Y.G. Wang, J.S. Wang, N.L. Wang, G.C. Han and D.P. Jiao 94–96
- Double He gas circuit cryostat for 4–300 K temperature range
H. Tutzauer, R. Decca, D. Serafini and F. de la Cruz 97–99
- Two stage Gifford–McMahon cycle cryorefrigerator operated by gas balancing principle
M. Thirumaleswar and R.M. Pandey 100–104
- Viscosity surface for mixtures of methane and ethane
D.G. Friend 105–112
- Thermodynamic properties of oxygen calculated from the BWR equation of state with eight newly determined coefficients
T. Asami and H. Ebisu 113–115
- Thermal conductivity, heat capacity and diffusivity of rubbers from 60 to 300 K
T. Bhowmick and S. Pottanayak 116–121
- Test apparatus for measurement of heat capacity of cryogenic materials from 77 to 300 K
S. Pottanayak and T. Bhowmick 122–126
- Magnetocaloric effect in strong magnetic fields
A.M. Tishin 127–136
- Bipolar transistors for low noise, low temperature electronics
T.S. Jayadev, S. Ichiki and J.C.S. Woo 137–140

March (pp 161–304)

- Special issue: Space Cryogenics Workshop, Pasadena, CA, USA, 31 July–1 August 1989

Thermal performance of a five year lifetime superfluid helium dewar for SIRTF

- J.H. Lee 166–172
- Very low force cooling contacts for the (ISO) cryostat cover
R. Schaeilig and A. Seidel 173–177
- Cryogenics: its influence on the selection of the ASTROMAG superconducting magnet coils
M.A. Green 178–183

Convective heat flow in space cryogenics: plugs; critical and moderate He II heat flux densities

- S.W.K. Yuan and T.H.K. Frederking 184–186

Co-operative oscillations of bubbles

- H.A. Snyder and A.J. Mord 187–192

Liquid acquisition devices for superfluid helium transfer

- M.J. DiPirro 193–199

Acquisition and transfer of superfluid helium in space

- T.A. Martin, J.P. Gille and J.E. Anderson 200–205

Performance of a thermomechanical pump

- G.L. Mills and A.R. Urbach 206–210

Pressure drop in the SHOOT superfluid helium acquisition system

- J.A. Nissen, B. Maytal and S.W. Van Sciver 211–215

Critical velocity of superfluid helium flow in fine pore filters

- A. Hofmann 216–221

Superfluid transport and its applications in space

- S.W.K. Yuan et al. 222–229

Liquid helium vibration cryostat for space qualification tests

- H.-D. Denner, U. Ruppert, T. Sutter and Z. Szucs 230–232

Requirements for long-life mechanical cryocoolers for space application

- R.G. Ross 233–238

Sorption cooler technology development at JPL

- A. Jones, S. Bard, H.R. Schember and J. Rodriguez 239–245

Closed cycle coolers for temperatures below 30 K

- A.H. Orlowska, T.W. Bradshaw and J. Hieatt 246–248

Stress analysis down to liquid helium temperature

- C. Ferrero 249–254

Cryogenic valve actuator

- U. Ruppert, Z. Szucs, I. Arend and M. Schoele 255–256

Dilution refrigeration for space applications

- U.E. Israelsson and D. Petrac 257–262

Space-borne ^3He refrigerator

- L. Duband, L. Hui and A. Lange 263–270

Development of an adiabatic demagnetization refrigerator for SIRTF

- P.T. Timbie, G.M. Bernstein and P.L. Richards 271–275

Index to volume 30 (1990)

Articles (titles in italics refer to Research and technical notes)

January (pp 1–88)

- Magnetic flux pinning properties of oxide superconductors by melt process
K. Matsumoto, H. Kikuchi, N. Uno and Y. Tanaka 5–10
- Preparation of the single high T_c phase samples of the Bi-Pb-Sr-Ca-Cu-O superconductors
V. Plecháček, H. Hedjová and Ž. Trejbalová 11–13
- Thermal conductivity of normal and superconducting metals
K. Gloos, C. Mitschka, F. Pobell and P. Smeibidl 14–18
- Quench stress and training of short superconducting samples
I.L. Maksimov 19–26
- Analytical method for calculation of critical energy of technical superconductors taking into account transient heat transfer
L. Malinowski 27–31
- Variational principle for critical heat of quench in partially stabilized superconducting magnets
V.R. Chechetkin, V.S. Lutovinov and A.Yu. Turynin 32–36
- Normal zone propagation in adiabatic superconducting magnets over the temperature range 4.2–80 K
Y. Iwasa and Y.M. Butt 37–40
- Superconducting magnet for high speed ground transportation
E.Yu. Klimentko, S.I. Novikov, V.I. Omelyanenko and S.A. Sergeev 41–45
- Transition currents of superconducting magnet system
V.V. Andrianov, V.P. Baev, S.S. Ivanov, R.G. Mints and A.L. Rakhmanov 46–48
- Development of a single-stage pulse tube refrigerator capable of reaching 49 K
Jingtao Liang, Yuan Zhou and Wenyi Zhu 49–51
- Installation for producing low temperatures in the 0.028–4.2 K range
A.N. Chernikov and Yu.F. Kiselev 52–55
- Problems of cooling and temperature measurement on objects in cryogenic optical studies
A.I. Belyaeva, T.G. Litvishkova, S.N. Marushko, V.I. Sirenko and V.P. Yuryev 56–64
- Liquid helium cooled sample stage for the investigation of microwave irradiated samples by scanning electron microscopy
Th. Doderer, H.G. Werner, R. Moeck, C. Becker and R.P. Heubener 65–67
- Particle initiated flashover in liquid nitrogen
A. Jaksts and B. Mazurek 68–71
- Cryoresistive gas insulated line
K. Hidaka, S. Matsumoto and T. Kouno 72–73

Measurements of high thermal conductivity for construction of a resonator

- P. Pengo, P. Favaron, P. Buso, L. Badan and S. Marigo 74–76
- Detecting superleaks in a dilution refrigerator
E. Suauadeau and E.D. Adams 77

February (pp 89–160)

- Use of RF SQUID for electrical resistance measurements up to 30 K with high temperature superconductor wiring
J. Romero, T. Fleischer and R. Huguenin 91–93
- Current characteristics of $\text{Bi}_{1-x}\text{Pb}_{0.5}\text{Sr}_2\text{Ca}_2\text{Cu}_3\text{O}_y$ superconductors prepared by the cast annealing method
Y.G. Wang, J.S. Wang, N.L. Wang, G.C. Han and D.P. Jiao 94–96
- Double He gas circuit cryostat for 4–300 K temperature range
H. Tutzauer, R. Decca, D. Serafini and F. de la Cruz 97–99
- Two stage Gifford–McMahon cycle cryorefrigerator operated by gas balancing principle
M. Thirumaleswar and R.M. Pandey 100–104
- Viscosity surface for mixtures of methane and ethane
D.G. Friend 105–112
- Thermodynamic properties of oxygen calculated from the BWR equation of state with eight newly determined coefficients
T. Asami and H. Ebisu 113–115
- Thermal conductivity, heat capacity and diffusivity of rubbers from 60 to 300 K
T. Bhowmick and S. Pottanayak 116–121
- Test apparatus for measurement of heat capacity of cryogenic materials from 77 to 300 K
S. Pottanayak and T. Bhowmick 122–126
- Magnetocaloric effect in strong magnetic fields
A.M. Tishin 127–136
- Bipolar transistors for low noise, low temperature electronics
T.S. Jayadev, S. Ichiki and J.C.S. Woo 137–140

March (pp 161–304)

- Special issue: Space Cryogenics Workshop, Pasadena, CA, USA, 31 July–1 August 1989

Thermal performance of a five year lifetime superfluid helium dewar for SIRTF

- J.H. Lee 166–172
- Very low force cooling contacts for the (ISO) cryostat cover
R. Schaeilig and A. Seidel 173–177
- Cryogenics: its influence on the selection of the ASTROMAG superconducting magnet coils
M.A. Green 178–183

Convective heat flow in space cryogenics: plugs; critical and moderate He II heat flux densities

- S.W.K. Yuan and T.H.K. Frederking 184–186

Co-operative oscillations of bubbles

- H.A. Snyder and A.J. Mord 187–192

Liquid acquisition devices for superfluid helium transfer

- M.J. DiPirro 193–199

Acquisition and transfer of superfluid helium in space

- T.A. Martin, J.P. Gille and J.E. Anderson 200–205

Performance of a thermomechanical pump

- G.L. Mills and A.R. Urbach 206–210

Pressure drop in the SHOOT superfluid helium acquisition system

- J.A. Nissen, B. Maytal and S.W. Van Sciver 211–215

Critical velocity of superfluid helium flow in fine pore filters

- A. Hofmann 216–221

Superfluid transport and its applications in space

- S.W.K. Yuan et al. 222–229

Liquid helium vibration cryostat for space qualification tests

- H.-D. Denner, U. Ruppert, T. Sutter and Z. Szucs 230–232

Requirements for long-life mechanical cryocoolers for space application

- R.G. Ross 233–238

Sorption cooler technology development at JPL

- A. Jones, S. Bard, H.R. Schember and J. Rodriguez 239–245

Closed cycle coolers for temperatures below 30 K

- A.H. Orlowska, T.W. Bradshaw and J. Hieatt 246–248

Stress analysis down to liquid helium temperature

- C. Ferrero 249–254

Cryogenic valve actuator

- U. Ruppert, Z. Szucs, I. Arend and M. Schoele 255–256

Dilution refrigeration for space applications

- U.E. Israelsson and D. Petrac 257–262

Space-borne ^3He refrigerator

- L. Duband, L. Hui and A. Lange 263–270

Development of an adiabatic demagnetization refrigerator for SIRTF

- P.T. Timbie, G.M. Bernstein and P.L. Richards 271–275

- Adiabatic demagnetization cooler for infrared detector**
T. Yazawa, A. Sato and J. Yamamoto 276–280
- Rejection of waste heat from oxygen liquefaction operations at a lunar oxygen production plant**
J.N. Linsley and E.B. Jenson 281–285
- SHOOT flowmeter and pressure transducers**
A. Kashani, R.A. Wilcox, A.L. Spivak, D.E. Daney and C.E. Woodhouse 286–291
- Space qualification of the ISO cryogenic rupture discs**
E. Ettlinger, H. Rudiger and M. Wanner 292–295
- April (pp 305–384)**
- Effects of flux creep on a superconducting solenoid with high T_c oxide superconductors**
K. Yamafuji, Y. Mawatari and T. Fujiyoshi 310–313
- Electromagnetic phenomena and hysteresis losses in superconductors**
T. Matsushita 314–323
- Low-noise SQUID simulator with a large dynamic range of up to eight flux quanta**
A. Martinez, J. Flokstra, C. Rillo, L.A. Angurel, L.M. Garcia and H.J.M. ter Brake 324–329
- High slew rate gradiometer prototype with digital feedback loop of variable step size**
H. Matz, D. Drung, E. Crocoll, R. Herwig, G. Krämer, M. Neuhaus and W. Jutzi 330–334
- Convective heat transfer research using a cryogenic environment**
A.M. Clauzing 335–340
- Cyclic simulation of Stirling cryocoolers**
M.D. Atrey, S.L. Bapat and K.G. Narayankhedkar 341–347
- Thin film platinum resistance thermometer for measurements in high magnetic fields**
D.A. Dimitrov, B.M. Terzijska, V. Guevezov and V.T. Kovachev 348–350
- Thick film thermometers with predictable $R-T$ characteristics and very low magneto-resistance below 1 K**
R.W. Willekers, F. Mathu, H.C. Meijer and H. Postma 351–355
- Cryogenic material properties of stainless steel tube-to-flange welds**
T.A. Siewert, C.N. McCowan and D.P. Vigliotti 356–364
- Low liquid helium consumption cryostat for magnetoresistivity measurements in a narrow gap electromagnet**
H. White and D.S. McLachlan 365–366
- Computer animation as a teaching aid: the Stirling cycle**
A. Laesec 367–370
- May (pp 385–480)**
- Special Issue – Part 1: International Conference on Critical Currents in High Temperature Superconductors, Karlsruhe, Germany, 24–25 October 1989**
- Critical currents and flux creep in melt processed high T_c oxide superconductors**
M. Murakami, S. Gotoh, N. Koshizuka, T. Tanaka, T. Matsushita, S. Kambe and K. Kitazawa 390–396
- Spatially resolved observation of charge transfer across single grain boundaries in $\text{YBa}_2\text{Cu}_3\text{O}_7$ films**
J. Mannhart, R. Gross, R.P. Huebener, P. Chaudhari, D. Dimos and C.C. Tsuei 397–400
- Irreversible behaviour of oriented grained $\text{YBa}_2\text{Cu}_3\text{O}_x$. Part I: Transport and shielding currents**
C. Keller, H. Küpfer, R. Meier-Hirmer, U. Wiech, V. Selvamanickam and K. Salama 401–409
- Irreversible behaviour of oriented grained $\text{YBa}_2\text{Cu}_3\text{O}_x$. Part II: Relaxation phenomena**
C. Keller, H. Küpfer, R. Meier-Hirmer, U. Wiech, V. Selvamanickam and K. Salama 410–416
- On the resistive transition in field of crystalline $\text{Y}_1\text{Ba}_2\text{Cu}_3\text{O}_{7-x}$**
T.K. Worthington, F.H. Holtzberg and C.A. Feild 417–421
- Critical currents and flux pinning in Ag-stabilized high T_c superconductor wires**
J. Tenbrink, K. Heine and H. Krauth 422–426
- Densification of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ by uniaxial pressure sintering**
S.L. Town, D.N. Mathews, J. Cochrane, G.J. Russell and K.N.R. Taylor 427–429
- Dependence of critical current density on microstructure in Ag sheathed $\text{Ba}_2\text{Cu}_3\text{O}_{6+x}$ tapes**
K. Osamura, T. Takayama and S. Ochiai 430–433
- Critical current densities of bulk, polycrystalline high T_c superconductor wires and tubes**
N.McN. Alford, T.W. Button, D.H. Jones, J.D. Birrell, C.E. Gough and S.J. Penn 434–438
- Pulsed critical current measurements in YBCO wires and screen-printed films**
M.S. Coicough, J.S. Abel, C.E. Gough, J. Ricketts, T. Shields, E. Wellhofer and W.F. Vinen 439–444
- Recent progress of high T_c superconductors in China**
Fang Junren and Hu Suhui 445–447
- Critical current densities and flux creep in epitaxial $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ thin films**
G.C. Xiong, F.R. Wang, S.Z. Wang, Q.D. Jiang, J.Y. Li, Z.J. Yin, C.Y. Li and D.L. Yin 448–450
- Films of BSCCO superconductors prepared by spray pyrolysis of carboxylates**
M. Schieber, T. Tsach, M. Levinsky, B.L. Zhou, M. Golosovsky and D. Davidov 451–454
- The critical current in $\text{Gd}-\text{Ba}-\text{Cu}-\text{O}$ superconducting thin films prepared by d.c.-magnetron sputtering using a single planar target**
H.-C. Li, R.L. Wang, C.G. Cui, X.S. Ron, B. Yin, S.F. Cui, D.S. Dai, W. Liou, Y. Chen, S.L. Li, Y.D. Cui, Z.H. Mai, F.H. Lai, J. Geerk, and L. Li 455–457
- Flux pinning mechanism in unoriented grains of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$**
- R. Wordenweber, K. Heinemann, G.V.S. Sastry and H.C. Freyhardt 458–463**
- d.c. critical currents in granular sintered superconducting ceramics**
R. Riedinger 464–466
- Critical currents in polycrystalline $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$**
T.R. Finlayson, D.A. Garvie, D.B. Lowe, Z. Przelozny and T.F. Smith 467–473
- June (pp 481–560)**
- A matter of degrees: a brief history of cryogenics**
R.G. Scurlock 483–500
- Stability of superconductors in rapidly changing magnetic fields**
C. Schmidt 501–510
- Miniature susceptometer for the study of high T_c superconducting materials**
P. Vašek 511–513
- Double inlet pulse tube refrigerators: an important improvement**
Z. Shaowei, W. Peiyi and C. Zhongqi 514–520
- Magnetic intermetallic compounds for cryogenic regenerator**
R. Li, M. Ogawa and T. Hashimoto 521–527
- On the problem of thermal heat sinks in cryogenics**
I.V. Velichkov 527–529
- Computer program for optimization of small cryostat design**
C. Ceccarelli, G. Dall'Olio, M. Di Bari, L. Pizzo and C. Santillo 530–532
- Germanium resistance thermometers with low magnetoresistance**
L.I. Zarubin, I.Y. Nemish and A. Szmryka-Grzebyk 533–537
- Capacitive level meters for cryogenic liquids with continuous readout**
I.V. Velichkov and V.M. Drobin 538–544
- High T_c superconductors as thermal radiation shields**
A.F. Zeller 545–546
- Piezoelectric properties of quartz crystal resonators below 10 K**
J.J. Suter 547–548
- July (pp 560–664)**
- Special issue – Part II: International Conference on Critical Currents in High Temperature Superconductors, Karlsruhe, Germany, 24–25 October 1989**
- Flux creep and critical currents in epitaxial high T_c films**
R. Griessen, J.G. Lensink, T.A.M. Schröder and B. Dam 563–568
- Critical state in high T_c superconductors: magnetization and creep of the intergranular region**
V. Calzona, M.R. Cimberle, C. Ferdeghini, F. Pupella, M. Putti, C. Rizzuto, A. Siri and R. Vaccarone 569–575
- Critical current decay with ageing for polycrystalline YBCO wires and rings**
L. Gherardi, P. Metra, G. Vellego and P. Radaelli 576–580

Index

- Critical current and flux creep in orientated Bi-Pb-Sr-Ca-Cu-O 110 K phase made by powder-in-tube method Y. Yamada, S. Murase, K. Yamamoto and Y. Kamisada 581-585
- Growth quality and critical current density of sputtered YBaCuO thin films W. Schauer, X.X. Xi, V. Windte, O. Meyer, G. Linker, Q. Li and J. Geerk 586-592
- Relationship between microstructure and critical parameters in high T_c superconducting Bi-Pb-Sr-Ca-Cu-O thick films A. Uusimaki, I. Kirschner, J. Levoska, J. Hagberg, G. Zsolt, Gy. Kovacs, T. Porjesz, I. Dödony, S. Leppävuori, E. Lähderanta and R. Laiho 593-598
- High current capacity textured thick films of YBCO on YSZ obtained by melt processing A. Bailey, G. Alvarez, G.J. Russell and K.N.R. Taylor 599-602
- Critical currents in melt-textured YBa₂Cu₃O_y superconductors C.-G. Cui, F.-S. Liu, H.-L. Mou, T.-C. Wang, S.-L. Li, J. Li, L. Hongyue, L. Zhou and X.-Z. Wu 603-605
- Effect of magnetic field on d.c. transport critical current density in grain orientated Y-Ba-Cu-O T.L. Francavilla, V. Selvamanickam, K. Salama, D.H. Liebenberg 606-610
- Growth mechanism of high T_c phase in leaded Bi-Sr-Ca-O system T. Hatano, K. Aota, H. Hattori, S. Ikeda, K. Nakamura and K. Ogawa 611-613
- Fluxoid motion and resistive transition in high T_c superconductors T. Matsushita and B. Ni 614-617
- Irreversibility and hysteretic aspects of granular YBCO Y. Yang, C. Beduz and S.P. Ashworth 618-622
- Quality of high temperature superconducting poly- and single crystals in relation to their critical dynamic field B. Loegel, A. Mehdaoui, D. Bolmont, A. Eckhardt and F. Müller 623-627
- Electron microscopy study of grain boundaries in 1-2-3 superconductors H.W. Zandbergen, W.T. Fu, L.J. de Jong and G. van Tendeloo 628-632
- Flux pinning of (100) mirror twin boundaries and (100) 90° rotation twin boundaries in YBa₂Cu₃O_y H.W. Zandbergen, J. van den Berg and P.H. Kes 633-638
- Scaling law for critical currents and magnetization in high temperature superconductors H.W. Neumüller, G. Ries, J. Bock and E. Preiser 639-642
- Anisotropic transport critical current density and its field dependence in Bi₂Sr₂CaCu₃O_x single crystal Y. Yamada, S. Nomura, K. Ando and O. Horigami 643-646
- Sample size effect on the Meissner fraction in YBa₂Cu₃O_{y-x} single crystals M.V. Kartsovnik, G.Yu. Logvenov and K.Ya Soifer 647-649
- Anisotropic current flow and demagnetization corrections in the Bean model F.M. Sauerzopf, H.P. Wiesinger and H.W. Weber 650-655
- Critical currents and relaxation effects in Nd_{2-x}Ce_x-CuO_{4-y} single crystals J. Fontcuberta, S. Pihol, X. Obradors, F. Lera and C. Rillo 656-659
- Temperature and magnetic field dependence and transport critical current density in YBa₂Cu₃O_y ceramics K. Vad, S. Mészáros, G. Halász and Sz. Balanyi 660-664
- August (pp 665-744)
- High T_c superconductors and critical current measurement L.F. Goodrich and S.L. Bray 667-677
- Critical current density and flux-shear mechanisms A. Kahan 678-685
- Abnormal quench process with very fast elongation of normal zone in multi-strand superconducting cables M. Iwakuma, H. Kanetaka, K. Tasaki, K. Funaki, M. Takeo and K. Yamafuji 686-692
- Homogeneity and time stability of magnetic fields trapped in superconducting cylinders S.H. Dietzelbinger, M.G. Richards and K. Machin 693-696
- Method for determining transverse resistivity of multifilamentary superconducting composites with high resistivity matrix M. Polák, L. Janšák and M. Majroš 697-699
- Performance prediction of multilayer insulation S.L. Bapat, K.G. Narayankhedkar and T.P. Lukose 700-710
- Experimental investigations of multilayer insulation S.L. Bapat, K.G. Narayankhedkar and T.P. Lukose 711-719
- Working substances for magnetic refrigerators A.M. Tishin 720-725
- Performance of thick strain gauges at cryogenic temperatures C. Ferrero, C. Marinari, A. Masiero, B. Morten and M. Prudenziati 726-729
- Iso-chemical potential trajectories in the P-T plane for He II B. Maytal, J.A. Nissen and S.W. Van Sciver 730-731
- Calculation of heat transfer in a Gifford-McMahon cryocooler by introduction of a time dependent heat transfer coefficient M. Zoli 731-733
- Precise and efficient in situ ortho-para-hydrogen converter N.S. Sullivan, D. Zhou and C.M. Edwards 734-735
- September supplement (1-XXIX, pp 1-958)
- Proceedings of the Thirteenth International Cryogenic Engineering Conference, Beijing, China, 24-27 April 1990 (Self-indexed)
- October (pp 833-904)
- Helium flowrate transducers for space applications A. Rivetti and G. Martini 835-839
- Thermodynamic analysis of magnetically active regenerator from 30 to 70 K with a Brayton-like cycle K. Matsumoto and T. Hashimoto 840-845
- Factors that control J_c in high T_c superconductors K.S. Lichtenberger, S.C. Sanders, K.S. Athreya, O.B. Hyun and D.K. Finnemore 846-848
- Low magnetic field impulse transition in YBa₂Cu₃O_y bulk material J. Gerhold, S. Elschner and R. Flükiger 849-855
- Pressing pressure dependence of critical current density in single phase 2223 Bi-Pb-Sr-Ca-Cu-O polycrystalline superconductor V. Plecháček, H. Hejdová and Ž. Trejbalová 750-753
- Thermal propagation of normal zone with increasing temperature level in helium-cooled and high temperature superconductors Yu. M. Lvovsky 754-764
- Analytical method for calculation of critical energy of technical superconductors based on the minimum propagating zone theory L. Malinowski 765-769
- Compact PrNi₃ nuclear demagnetization cryostat S.A.J. Wiegers, T. Hata, C.C. Kranenburg, P.G. van de Haar, R. Jochemsen and G. Frossati 770-774
- Mechanical properties and static friction behaviour of epoxy mixes at room temperature and at 77 K P.C. Michael, D. Aized, E. Rabinowicz and Y. Iwasa 775-786
- Breakdown characteristics of cryogenic gaseous helium in uniform electric field and space charge modified non-uniform field M. Hara, J. Suehiro and H. Matsumoto 787-794
- Thermal characteristics of poly(ethylene vinyl acetate) from 80 to 300 K S. Pattanayak and T. Bhowmick 795-798
- Low temperature embrittlement after ageing stainless steels W.J. Muster and J. Elster 799-802
- Cryogenic acoustic loss of pure and alloyed titanium A.L. Matacz, P.J. Veitch and D.G. Blair 803-805
- YBa₂Cu₃O_y wires of long length J. Löhlé, K. Mattenberger, O. Vogt and P. Wachter 806-808
- 1168 Cryogenics 1990 Vol 30 December

- Tunnelling characteristics of point contacts with high- T_c material
H.J. van Schevicolven, D. Lenstra and A.Th.A.M de Waele 856–864
- Magnetic relaxation in high T_c oxide $\text{YBa}_2\text{Cu}_3\text{O}_y$ superconductor
Cao Xiaowen, Zhang Fengying and Huang Sunli 862–865
- Superconducting coaxial turn transformer F. Schauer 866–882
- Investigation of superconducting filament non-uniformities by an electrical method M. Polák, A.V. Gurevich, M. Majoros and R.G. Mints 883–888
- Stability of superconducting composites under cyclic loading E.M. Bronina, V.I. Dotsenko, I.F. Kislyak and N.M. Chaykovskaya 889–893
- Stability of superconducting composites during external friction V.I. Dotsenko, I.F. Kislyak and N.M. Chaykovskaya 894–899

November (pp 905–976)

- Matrix heat exchangers and their application in cryogenic systems G. Venkatarathnam and S. Sarangi 907–918
- Superconducting properties of textured Bi–Sr–Ca–Cu–O tapes prepared by applying doctor blade casting H. Kumakura, K. Togano, J. Kase, T. Morimoto and H. Maeda 919–923
- Magnetic field dependence of critical current density in Bi–Pb–Sr–Ca–Cu–O silver sheathed wire T. Hikata, M. Ueyama, H. Mukai and Ken-ichi Sato 924–929
- Interaction of HeII transfer line and fountain effect pump B. Maytal, J.A. Nissen and S.W. Van Sciver 930–934
- Pressure drop from flow of cryogens in corrugated bellows J.G. Weisend II and S.W. Van Sciver 935–941
- Experimental investigation on heat leak into a liquid helium dewar B.M.S. Rugaiganisa, S. Nakagawa, M. Yoshiwa, T. Yoshihara and A. Hirai 942–946
- Experimental verification of an analytical model for orifice pulse tube refrigeration M.J.A. Baks, A. Hirschberg, B.J. van der Ceelen and H.M. Gijsman 947–951
- Study of the interpolation characteristics of a sealed low temperature gas thermometer K. Nara, R.L. Rusby and D.I. Head 952–958
- Phase diagram of a saturated fluid A. Elsner 959–967
- Thermodynamic properties of argon calculated from the BWR equation of state with eight newly determined coefficients*
T. Asami 968–971

December (pp 977–1176)

- Superconductor electronics T. van Duzer 980–995

- Superconductor–semiconductor hybrid transistors D.J. Frank 996–1004
- Josephson–semiconductor interface circuit H. Suzuki, T. Imamura and S. Hasuo 1005–1008
- Electronic transport across niobium–silicon interfaces D.R. Heslinga, W.M. van Huffelen, T.M. Klapwijk, S.J.M. Bakker and E.W.J.M. van der Drift 1009–1013
- Semiconductor–superconductor hybrid electronics T. van Duzer and S. Kumar 1014–1023
- Ultra-high speed semiconductor devices and low temperature electronics T. Mizutani, K. Hirata, M. Hirayama and A. Ishida 1024–1029
- Quasi static RAM design for high performance operation at liquid nitrogen temperature R.C. Jaeger and T.N. Blalock 1030–1035
- Silicon bipolar transistor: a viable candidate for high speed applications at liquid nitrogen temperature J.D. Cressler 1036–1047
- High temperature superconducting cavity for measurement of surface resistance M.J. Lancaster, Z. Wu, T.S.M. Maclean and N. McNamee Alford 1048–1050
- Anomalous latch-up behaviour of CMOS of liquid helium temperatures L. Deferm, E. Simoen, B. Dierickx and C. Claeys 1051–1055
- Impurity ionisation in MOSFETs at very low temperatures D.P. Foyt 1056–1063
- Carrier freezeout in silicon R.G. Pires, R.M. Dickstein, S.L. Titcomb and R.L. Anderson 1064–1068
- N-channel accumulation layer MOSFET operating at 4 K R.N. Ghosh and R.H. Silsbee 1069–1073
- Glass low-power closed-cycle cryorefrigerator for long-term operation W. Engeland and V. Kose 1074–1078
- New class of microminiature Joule-Thompson refrigerator and vacuum package R.L. Paugh 1079–1083
- Low-temperature behaviour of short-channel GaAs MESFETs B.J. Van Zeghbroeck 1084–1087
- Low-temperature operation of UHF power static induction transistors S.J. Butler, R.J. Regan, M. Abdollahian and R.J. Gage 1088–1093
- Switching losses of the cryogenic MOSFET and SiT O. Mueller 1094–1100
- Eight channel pressure measuring system for cryogenic use in the European Transonic Wind-tunnel over the temperature range 78–300 K R.G. Scullock and R. Webb 1101–1103
- Electronically scanned multichannel pressure transducer system for cryogenic environments J.J. Chapman 1104–1108
- Propagation of single flux quantum pulse on superconducting transmission line V.P. Andrusaty and V.S. Bobrov 1109–1112
- Substrate currents in short channel PMOS devices at cryogenic temperatures M.J. Deen and J. Wang 1113–1117
- Thermal model for the bolometric response of high T_c superconducting films to optical pulses M.I. Flik, P.E. Phelan and C.L. Tien 1118–1128
- Theoretical analysis of d.c. characteristics of semiconductor coupled high T_c superconducting MISFET J.F. Jiang, J. Pei, Y.S. Tang, X. Yu, H.M. Jiang, G.F. Zang and S. Wang 1129–1133
- Frequency response of sub-micrometre pseudomorphic $\text{AlGaAs}/\text{InGaAs}/\text{GaAs}$ MOSFETs at cryogenic temperatures J. Laskar, J. Kolodzey, A. Ketterson, S. Caracci and I. Adesida 1134–1139
- Low frequency noise studies of AlAs–GaAs–AlAs quantum well diodes at 77 K X.M. Li, M.J. Deen, S.P. Stapleton, R.H.S. Hardy and O. Berolo 1140–1145
- Current controlled high T_c superconducting switch Q.Y. Ma and E.S. Yang 1146–1148
- Planar microwave RF SQUID gradiometer M. Mück, D. Diehl and C. Heiden 1149–1150
- Analytical model for the current–voltage characteristics of a silicon resistor at liquid helium temperatures E. Simoen, B. Dierickx, L. Deferm and C. Claeys 1152–1159
- Substrate bias effects on drain-induced barrier lowering in short channel PMOS devices at 77 K Z.X. Yan and M.J. Deen 1160–1165

Keywords

- Bean model**
High T_c superconductors
Magnetization behavior 650–655
- Bi–Ca–Sr–Cu–O**
Critical current density
Superconductor 750–753
- Ceramic oxides**
High T_c superconductors
Single high T_c phase 11–13
- Ceramics**
Critical currents
High T_c superconductors 569–575
- Characteristic currents**
High T_c superconductors
Semiconductor 1129–1133
- Superconductor**
Tunneling 856–861
- Composites**
Superconductor stability
Mechanical properties 894–899
- Cooling systems**
Cryocoolers
Mathematical model 341–347
- Cryostats**
Helium 97–99
- Refrigerators**
Helium 52–56
Model 514–520
- Critical current density**
Bi–Ca–Sr–Cu–O
Superconductor 750–753
- High T_c superconductors**
Oxygen content 806–808
Thin films 455–457

- Intrgrain junctions
Tunneling 467–473
- Superconductors
Magnetization 919–923
- Critical currents**
Ceramics
High T_c superconductors 569–575
- Flux creep
High T_c superconductors 846–848
Thin films 448–450
- Grain boundary
Materials characterization 628–632
- High T_c superconductivity
Flux pinning 422–426
Grain boundaries 397–400
Magnetic fields 434–438
Thick films 439–444
- High T_c superconductors
Flux creep 563–568
Low temperature electronics 1146–1148
Magnetic films 660–664
Measuring methods 667–677
Model 623–627
Relaxation effects 656–659
Reviews 445–447
Thick films 593–598
 $\text{Y}-\text{Ba}-\text{Cu}-\text{O}$ compounds 576–580, 586–592, 603–605
- Magnetic fields
 $\text{Y}-\text{Ba}-\text{Cu}-\text{O}$ compounds 606–610, 618–622
- Materials characterization
Flux creep 417–421
Transport phenomena 401–409
- Model
Magnetic properties 678–685
- Oxide superconductors
 $\text{Bi}-\text{Sr}-\text{Ca}-\text{O}$ compounds 643–646
- Pinning force
High temperature superconductor 639–642
- Superconductivity
Magnetic field 849–855
- Superconductors
Flux pinning 390–396, 458–463
Model 464–466
 $\text{Y}-\text{Ba}-\text{Cu}-\text{O}$ compounds
Thick films 599–602
- Critical energies**
Superconductor
Superconductor stability 27–31, 765–769
- Critical temperatures**
Superconducting magnets
Normal zone propagation 37–40
- Cryocoolers**
Cooling systems
Mathematical model 341–347
- Heat transfer
Model 731–734
- Refrigeration
Cryogens 1074–1078
- Refrigerators
Pulse tube 49–51, 947–951
- Space cryogenics
Qualification testing 233–238
- Thermodynamics
Model 367–370
- Cryogens**
Pressure measurement
 He II 935–941
- Refrigeration
Cryocoolers 1074–1078
- Cryostats**
Helium
Cooling systems 97–99
Model 530–532
Scanning electron microscopy 65–67
- Measuring techniques
Helium 365–367
- Space cryogenics
Heat transfer 173–177
Helium 230–232
- Superconducting magnets
Magnetic levitation 41–45
- Temperature measurement
Optical studies 56–64
- Digital feedback loops**
Gradiometer
SQUIDS 330–334
- Electrical properties**
Helium
Corona discharge 787–794
- Insulation
Cryoressistive gas 72–74
- Superconductor
Transformer 866–882
- Transistors
Frequency characteristics 1134–1139
- Electromagnetic properties**
Superconducting cables
Quenching 686–692
- Superconductors
Flux pinning 314–323
- Epoxy resins**
Mechanical properties
Static friction coefficients 775–786
- Flux creep**
Critical current
Relaxation 410–416
- Critical currents
High T_c superconductor 846–848
Materials characterization 417–421
Thin films 448–450
- High T_c superconductors
Critical currents 563–568
Resistive transition 614–617
Transport properties 310–313
- Magnetization
Oxide superconductor 862–865
- Oxide superconductor
Critical current 581–585
- Flux pinning**
Critical currents density
Material characterization 430–433
- High T_c superconductivity
Critical currents 422–426
- Superconductors
Ceramic oxide 5–10
Critical currents 390–396, 458–463
Electromagnetic properties 314–323
 $\text{Y}-\text{Ba}-\text{Cu}-\text{O}$ compounds 633–638
- Fountain effect pumps**
Helium transfer
Mechanical properties 930–934
- Model
Measuring techniques 730–731
- Gifford–McMahon cycle**
Refrigerators 100–104
- Gradiometer**
SQUIDS
Tunnel junction 1149–1151
- Grain boundary**
Critical currents
Materials characterization 628–632
- Superconductors
Critical current densities 924–929
- Heat capacity**
Measuring instruments
Polymers 122–126
- Thermal conductivity
Thermal diffusivity 116–121
- Heat leaks**
Helium
Thermal insulation 942–946
- Heat transfer**
Cryocoolers
Model 731–734
- Model
Low temperature studies 335–340
- Normal zone propagation
Superconductors 754–764
- Physical properties
Reviews 907–918
- Space cryogenics
Cryostats 173–177
Heat conduction 281–285
- Helium**
Cryostats
Cooling systems 97–99
Measuring techniques 365–367
Model 530–532
Scanning electron microscopy 65–67
- Electrical properties
Corona discharge 787–794
- Heat leaks
Thermal insulation 942–946
- Materials characterization
Stress analysis 249–254
- Refrigerators
Cooling systems 52–56
- Space cryogenics
Cryostats 230–232
Flowmeters 286–291
Heat flow 184–186
Refrigerators 263–270
SHOOT 211–215
Safety components 292–295
Superfluidity 166–172, 193–199, 200–205, 206–210
Transducers 835–839
- Superfluidity
Critical velocity 216–221
- Helium transfer**
Fountain effect pumps
Mechanical properties 930–934
- High T_c superconductivity**
Critical currents
Flux pinning 422–426
Grain boundaries 397–400
Magnetic fields 434–438
Thick films 439–444
- Measuring methods
Magnetic flux visualization 747–749
- Superconductors
Applications 980–995
- Thin films
Thermal analysis 1118–1128
- High T_c superconductors**
Bean model
Magnetization behaviour 650–655
- Ceramic oxides
Single high T_c phase 11–13
- Characteristic currents
Semiconductor 1129–1133
- Critical current density
Oxygen content 806–808
Thin films 455–457
- Critical currents
Flux creep 563–568
Low temperature electronics 1146–1148
- Magnetic films 660–664
Measuring methods 667–677
Model 623–627
Relaxation effects 656–659
Reviews 445–447
Thick films 593–598
 $\text{Y}-\text{Ba}-\text{Cu}-\text{O}$ compounds 576–580, 586–592, 603–605
- Flux creep
Resistive transition 614–617
Transport properties 310–313

- Materials characterization**
 Physical properties 545–546
- Model**
 Meissner effect 647–649
- SQUIDS**
 Susceptometer 511–513
- Hydrogen**
 Low temperature studies
 Materials characterization 734–735
- Hysteresis**
 Low temperature electronics
 Transistors 1069–1073
- Impurity**
 Low temperature electronics
 Carrier freezeout 1064–1068
- Instrumentation**
 Low temperature electronics
 Transistors 1030–1035
- SQUIDS**
 SQUID electronics 324–329
- Superconductivity**
 Measuring methods 1048–1050
- Insulation**
 Electrical properties
 Cryoresistive gas 72–74
- Physical properties**
 Thermal conductivity 711–719
- Thermal conductivity**
 Model 700–710
- Thermal properties**
 Mathematical model 527–529
- Intragrain junctions**
 Critical current density
 Tunelling 467–473
- Josephson junctions**
 Semiconductors
 Low temperature electronics
 1005–1008
- Superconductors
 Interferometer 1000
- Joule-Thomson effect**
 Refrigerators
 Venturi pump 1079–1083
- Low temperature electronics**
 Bipolar transistors
 JFETs 137–140
- High T_c superconductors
 Critical currents 1046–1148
- Impurity**
 Carrier freezeout 1064–1068
- Instrumentation**
 Transistors 1030–1035
- Josephson junctions**
 Semiconductors 1005–1008
- Measuring instruments**
 Model 1101–1103
- Model**
 PMOS device 1060–1165
 Transport phenomena 1152–1159
- Noise**
 Quantum well diodes 1140–1145
- Semiconductors**
 MESFET 1084–1087
 Transistors 1024–1029
- Silicon**
 Latch-up behaviour 1051–1055
- Transistors**
 Hysteresis 1069–1073
 Physical properties 1036–1047
 Switching losses 1094–1100
 Temperature measurement
 1088–1093
 Tunnelling 1056–1063
- Tunnelling**
 Nb–Si contacts 1009–1013
- Low temperature studies**
 Heat transfer
 Model 335–340
- Hydrogen**
 Materials characterization 734–735
- Thermometers**
 Magnetic resistance 351–355
- Magnetic fields**
 Critical currents
 Y–Ba–Cu–O compounds
 606–610, 618–622
- High T_c superconductivity
 Critical currents 434–438
- Magnetic materials
 Magnetocaloric effect 127–136
- Refrigeration**
 Metals 720–725
- Superconductors**
 Magnetic properties 693–696
 Stability 501–510
- Thermometers**
 Semi-conductors 533–537
 Thermometry 348–350
- Magnetic materials**
 Cryocoolers
 Regenerators 521–526
- Magnetic fields**
 Magnetocaloric effect 127–136
- Magnetic properties**
 Critical currents
 Model 678–685
- Magnetic field**
 Superconductors 693–696
- Magnetization**
 Flux creep
 Oxide superconductor 862–865
- Multifilamentary wires
 Measuring methods 697–699
- Superconductors**
 Critical current density 919–923
- Magnetocaloric effect**
 Magnetic fields
 Magnetic materials 127–136
- Materials characterization**
 Critical currents
 Flux creep 417–421
- Transport phenomena 401–409
- Grain boundary**
 Critical currents 628–632
- Helium**
 Stress analysis 249–254
- High T_c superconductors
 Physical properties 545–546
- Low temperature studies**
 Hydrogen 734–735
- Measuring methods**
 Multifilamentary wires 883–888
- Mechanical properties**
 Steel 356–364
- Superconductivity**
 Critical currents 427–429
- Superconductors**
 Bi–Ca–Sr–Cu–O 451–454
- Temperature measurement
 Relaxation processes 547–548
- Mathematical model**
 Temperature dependence
 Substrate current 1113–1117
- Measuring instruments**
 Heat capacity
 Polymers 122–126
- Low temperature electronics
 Model 1101–1103
- Measuring techniques**
 Physics properties 538–544
- Thermal properties**
 Computer scanned 1104–1108
- Measuring methods**
 High T_c superconductivity
 Magnetic flux visualization 747–749
- High T_c superconductors
 Critical currents 667–677
- Multifilamentary wires
 Magnetization 697–699
- Materials characterization 883–888
- Superconductivity**
 Instrumentation 1048–1050
- Measuring techniques**
 Cryostats
 Helium 365–367
- Fountain effect pumps
 Model 730–731
- Measuring instruments**
 Physics properties 538–544
- Mechanical properties**
 Epoxy resins
 Static friction coefficients 775–786
- Fountain effect pumps
 Helium transfer 930–934
- Steel**
 Materials characterization 356–364
- Mb_3Sn 799–802
- Superconductor stability**
 Composites 894–899
- Metals**
 Physical properties
 Thermoacoustics 795–798,
 803–805
- Refrigeration**
 Magnetic fields 720–725
- Thermal conductivity**
 Superconductors 14–18
- Model**
 Critical currents
 High T_c superconductors 623–627
- Magnetic properties 678–685
- Superconductors 464–466
- Cryocoolers**
 Heat transfer 731–734
- Cryostats**
 Helium 530–532
- Fountain effect pumps
 Measuring techniques 730–731
- Heat transfer**
 Low temperature studies 335–340
- High T_c superconductors
 Meissner effect 647–649
- Insulation**
 Thermal conductivity 700–710
- Low temperature electronics
 Measuring instruments 1101–1103
- PMOS device 1160–1165
- Refrigerators**
 Cooling systems 514–520
- Thermodynamics**
 Cryocoolers 367–370
- Transport phenomena**
 Low temperature electronics
 1152–1159
- Multifilamentary wires**
 Measuring methods
 Magnetization 697–699
- Materials characterization 833–888
- Nitrogen**
 Liquid nitrogen
 Electrical breakdown flashover
 68–71
- Thermodynamics**
 Mathematical model 968–971
- Normal zone propagation**
 Superconducting magnets
 Critical temperatures 37–40
- Superconductors**
 Heat transfer 754–764
- Oxide superconductor**
 Bi–Sr–Ca–Cu–O compounds
 High T_c phase 611–613
- Critical current density**
 Magnetization 94–96
- Flux creep**
 Critical current 581–585
- Oxygen**
 Thermodynamics
 Thermodynamic properties
 113–115

Index

- Physical properties**
Heat transfer
Reviews 907–918
High T_c superconductors
Materials characterization 545–546
Insulation
Thermal conductivity 711–719
Metals
Thermoacoustics 795–798,
803–805
Thick film resistors
Cryogenics 726–729
Transistors
Low temperature electronics
1036–1047
Viscosity
Fluid mixtures 105–112
- Pinning force**
Critical currents
High T_c superconductor 639–642
- Polymers**
Measuring instruments
Heat capacity 122–126
- Pressure measurement**
Cryogens
He II 935–941
- Refrigeration**
Cryocoolers
Cryogens 1074–1078
Magnetic fields
Metals 720–725
Space cryogenics
Sorption coolers 239–245
- Refrigerators**
Cooling systems
Model 514–520
Cryocoolers
Pulse tube 49–51, 947–951
Cryostat
Nuclear cooling 770–774
Dilution refrigerators
Superleaks 77
Helium
Cooling systems 52–56
Joule–Thomson effect
Venturi pump 1079–1083
Space cryogenics
Adiabatic demagnetization 271–275
Dilution refrigerators 257–262
Helium 263–270
Stirling cycle 246–248
- Thermodynamics**
Active regenerator 840–845
- Reviews**
Cryogenics
Research 483–500
Heat transfer
Physical properties 907–918
High T_c superconductors
Critical currents 445–447
- SQUIDS**
Gradiometer
Tunnel junctions 1149–1151
High T_c superconductors
D.c. resistance measurements 91–93
Instrumentation
SQUID electronics 324–329
- Scanning electron microscopy**
Cryostats
Helium 65–67
- Semiconductors**
High T_c superconductors
Characteristics currents 1129–1133
Josephson junctions
Low temperature electronics
1005–1008
Low temperature electronics
MESFET 1084–1087
Transistors 1024–1029
- Superconductors**
Hybrid transistor 996–1004
Transistor 1014–1023
- Silicon**
Low temperature electronics
Latch-up behaviour 1051–1055
- Space cryogenics**
Adiabatic demagnetization
Infrared detectors 276–280
Bubbles
Fluid oscillations 187–192
Cryocoolers
Qualification testing 233–238
Cryostats
Helium 230–232
Heat transfer
Cryostats 173–177
Heat conduction 281–285
Helium
Flowmeters 286–291
Heat flow 184–186
Refrigerators 263–270
SHOOT 211–215
Safety components 292–295
Superfluidity 166–172, 193–199
200–205, 206–210
Transducers 835–839
- Refrigeration**
Sorption coolers 239–245
- Refrigerators**
Adiabatic demagnetization 271–275
Dilution refrigerators 257–262
Stirling cycle 246–248
- Superconducting magnets**
Magnet coils 178–183
- Superfluid transport**
Porous plugs 222–229
- Valves**
Valve actuators 255–256
- Steel**
Mechanical properties
Materials characterization
356–364
 Mn_3Sn 799–802
- Superconducting cables**
Electromagnetic properties
Quenching 686–692
- Superconducting magnets**
Critical heat of quench
Thermal stability 32–36
Critical temperatures
Normal zone propagation 37–40
- Cryostats**
Magnetic levitation 41–45
Space cryogenics
Magnet coils 178–183
- Superconductor stability**
Transition currents 46–48
- Superconductivity**
Critical currents
Magnetic field 849–855
Materials characterization
Critical currents 427–429
Measuring methods
Instrumentation 1048–1050
- Superconductor stability**
Composites
Mechanical properties 894–899
Superconducting magnets
Transition currents 46–48
Superconductors
Critical energies 765–769
Training 889–893
- Superconductors**
Critical currents
Flux pinning 390–396, 458–463
Model 464–466
Critical energies
Superconductors stability 27–31
- Electrical properties**
Transformer 866–882
- Flux pinning**
Ceramic oxide 5–10
Electromagnetic properties 314–323
Y–Ba–Cu–O compounds 633–638
- Grain boundary**
Critical current densities 924–929
- High T_c superconductivity**
Applications 980–995
- Josephson junctions**
Interferometer 1109–1112
- Magnetic fields**
Magnetic properties 693–696
Stability 501–510
- Magnetization**
Critical current density 919–923
- Materials characterization**
Bi–Ca–Sr–Cu–O 451–454
- Normal zone propagation**
Heat transfer 754–764
- Quench stress**
Training 19–26
- Semiconductors**
Hybrid transistor 996–1004
Transistor 1014–1023
- Superconductor stability**
Critical energies 765–769
Training 889–893
- Thermal conductivity**
Metals 14–18
Resonators 74–76
- Tunnelling**
Characteristic currents 856–861
- Superfluidity**
Helium
Critical velocity 216–221
Space cryogenics
Helium 166–172, 193–199,
200–205, 206–210
- Temperature dependence**
Mathematical model
Substrate current 1113–1117
- Temperature measurement**
Cryostats
Optical studies 56–64
Materials characterization
Relaxation processes 547–548
- Transistors**
Low temperature electronics
1088–1093
- Thermal conductivity**
Heat capacity
Thermal diffusivity 116–121
- Insulation**
Model 700–710
Physical properties 711–719
- Metals**
Superconductors 14–18
Superconductors
Resonators 74–76
- Thermal properties**
Insulation
Mathematical model 527–529
- Measuring instruments**
Computer scanned 1104–1108
- Thermoscoutics**
Metals
Physical properties 795–798,
803–805
- Thermodynamics**
Cryocoolers
Model 367–370
Mathematical model
Fluids 959–967
- Nitrogen**
Mathematical model 968–971
- Oxygen**
Thermodynamic properties 113–115

Refrigerator				
Active regenerator	840–845			
Thermometers				
Low temperature studies				
Magnetic resistance	351–355			
Magnetic fields				
Semiconductors	533–537			
Thermometry	348–350			
Measuring				
Instrumentation	952–958			
Thermometry				
Thermometers				
Magnetic fields	348–350			
Thin films				
High T_c superconductivity				
Thermal analysis	1118–1128			
Transistors				
Electrical properties				
Frequency characteristics	1134–1139			
Low temperature electronics				
Hysteresis	1069–1073			
Instrumentation	1030–1035			
Physical properties	1036–1047			
Semiconductors	1024–1029			
Switching losses	1094–1100			
Temperature measurement				
1088–1093				
Tunnelling	1056–1063			
Transport phenomena				
Critical currents				
Materials characterization	401–409			
Model				
Low temperature electronics				
1152–1159				
Tunnelling				
Low temperature electronics				
Nb–Si contacts	1009–1013			
Superconductor				
Characteristic currents	856–861			
Viscosity				
Physical properties				
Fluid mixtures	105–112			
Authors				
Abdollahian, M.	1088–1093			
Abell, J.S.	439–444			
Adams, E.D.	77			
Adesida I.	1134–1139			
Aized, D.	775–786			
Alvarez, G.	599–602			
Amar, R.C.	222–229			
Anderson, J.E.	200–205			
Anderson, R.L.	1064–1068			
Ando, K.	643–646			
Andratsky, V.P.	1109–1112			
Andrianov, V.V.	46–48			
Angurel, L.A.	324–329			
Aota, K.	611–613			
Arend, I.	255–256			
Asami, T.	113–115, 968–971			
Ashworth, S.P.	618–622			
Athreya, K.S.	846–848			
Atrey, M.D.	341–347			
Belyaeva, A.I.	56–64			
Badan, L.	74–76			
Baev, V.P.	46–48			
Bailey, A.	599–602			
Bakker, S.J.M.	1009–1013			
Baks, M.J.A.	947–951			
Balanyi, Sz.	660–664			
Bapat, S.L.	341–347, 700–710, 711–719			
Bard, S.	239–245			
Becker, C.	65–67			
Beduz, C.		618–622		
Bernstein, G.M.		271–275		
Berolo, O.		1140–1145		
Bhowmick, T.		116–121, 122–126, 795–798		
Birchall, J.D.		434–438		
Blair, D.G.		803–805		
Bialock, T.N.		1030–1035		
Bobrov, V.S.		1109–1112		
Bock, J.		639–642		
Bolmont, D.		623–627		
Bradshaw, T.W.		246–248		
Bray, S.L.		667–677		
Bronina, E.M.		889–983		
Buso, P.		74–76		
Butler, S.J.		1088–1093		
Butt, Y.M.		37–40		
Button, T.W.		434–438		
Chernikov, A.N.		52–56		
Calzona, V.		569–575		
Caraandang, R.		222–229		
Caracci, S.		1134–1139		
Caspi, S.		222–229		
Ceccarelli, C.		530–532		
Chang, Y.W.		222–229		
Chapman, J.J.		1104–1108		
Chapman, R.C.		222–229		
Chaudhari, P.		397–400		
Chaykovskaya, N.M.		889–893,		
Chechetkin, V.R.		894–899		
Chen, W.E.W.		32–36		
Chen, Y.		222–229		
Chuang, T.		455–457		
Cimberle, M.R.		222–229		
Claeys, C.	1051–1055, 1152–1159			
Clausing, A.M.		335–340		
Cochrane, J.		427–429		
Colclough, M.S.		439–444		
Cressler, J.D.		1036–1047		
Crocoll, E.		330–334		
Cui, C.-G.	455–457, 603–605			
Cui, S.F.		455–457		
Cui, Y.D.		455–457		
Dai, D.S.		455–457		
Dall'Oglio, G.		530–532		
Dam, B.		563–568		
Daney, D.E.		286–291		
Davidov, D.		451–454		
Decca, R.		97–99		
Deen, M.J.	1113–1117, 1140–1145,			
	1160–1165			
Deferm, L.	1051–1055, 1152–1159			
de Jong, L.J.		629–632		
de Waele, A.Th.A.M.		856–861		
de la Cruz, F.		97–99		
Denner, H.-D.		230–232		
Di Bari, M.		530–532		
Di Pirro, M.J.		193–199		
Dickstein, R.M.		1064–1068		
Diehl, D.		1149–1151		
Dierickx, B.	1051–1055, 1152–1159			
Dietzelbinger, S.H.		693–696		
Dimitrov, D.A.		348–350		
Dimos, D.		397–400		
Doderer, Th.		65–67		
Dodonov, I.		593–598		
Dotsenko, V.I.	889–893, 894–899			
Drobin, V.M.		538–544		
Drung, D.		330–334		
Duband, L.		263–270		
Ebisu, H.		113–115		
Eckhardt, A.		623–627		
Edwards, C.M.		734–735		
Elschner, S.		849–855		
Elsner, A.		959–967		
Elster, J.		799–802		
Favaron, P.		74–76		
Feild, C.A.		417–421		
Fengying, Z.		862–865		
Ferdeghini, C.		569–572		
Ferrero, C.	249–254, 726–729			
Finlayson, T.R.		467–473		
Finnemore, D.K.		846–848		
Fleischer, T.		91–93		
Flik, M.I.		1118–1128		
Fllokstra, J.		324–329		
Flukiger, Dr		849–855		
Fontcuberta, J.		656–659		
Foty, D.P.		1056–1063		
Francavilla, T.L.		606–610		
Frank, D.J.		996–1004		
Frederking, T.H.K.		184–186		
Freyhardt, H.C.		458–463		
Friend, D.G.		105–112		
Frossati, G.		770–774		
Fu, W.T.		628–632		
Fujiyoshi, T.		310–313		
Funaki, K.		686–692		
Gage, R.J.		1088–1093		
Garcia, L.M.		324–329		
Garvie, D.A.		467–473		
Geerk, J.		455–457, 586–592		
Gerhold, J.		849–855		
Gherardi, L.		576–580		
Ghosh, R.N.		1069–1073		
Gijssman, H.M.		947–951		
Gille, J.P.		200–205		
Gloos, K.		14–18		
Golosovsky, M.		451–454		
Goodrich, L.F.		667–677		
Gotoh, S.		390–396		
Gough, C.E.	434–438, 439–444			
Green, M.A.		178–183		
Griessen, R.		563–568		
Gross, R.		397–400		
Guevezov, V.		348–350		
Gurevich, A.V.		883–888		
Hagberg, J.		593–598		
Halasz, G.		660–664		
Han, G.C.		94–96		
Hara, M.		787–794		
Hardy, R.H.S.		1140–1145		
Hashimoto, T.		521–526, 840–845		
Hasuo, S.		1005–1008		
Hata, T.		770–774, 611–613		
Hattori, H.		611–613		
Head, D.I.		952–958		
Hedjova, H.		11–13		
Heiden, C.		1149–1151		
Heine, K.		422–426, 458–563		
Hejdova, H.		750–753		
Hieatt, J.		246–248		
Hikata, T.		924–929		
Hirai, A.		942–946		
Hirata, K.		1024–1029		
Heubener, R.P.		65–67		
Hirayama, M.		72–74		
Hirkach, A.		947–951		
Hofmann, A.		216–221		
Holtzberg, F.H.		417–421		
Hongye, L.		603–605		
Horigami, O.		643–646		
Hirschberg, A.		947–951		
Hofmann, A.		216–221		
Holtzberg, F.H.		417–421		
Hongye, L.		603–605		
Horigami, O.		643–646		
Huebener, R.P.		397–400		
Huguenin, R.		91–93		
Hui, L.		263–270		
Hyun, O.B.		846–848		

Index

- Ichiki, S. 137–140
 Ikeda, S. 611–613
 Imamura, T. 1005–1008
 Indenbom, M.V. 747–749
 Ishida, A. 1024–1029
 Israelsson, U.E. 257–262
 Ivanov, S.S. 46–48
 Iwakuma, M. 686–692
 Iwasa, Y. 37–40, 775–786
- Jaeger, R.C. 1030–1035
 Jaksts, A. 68–71
 Jansak, L. 697–699
 Jayadev, T.S. 137–140
 Jenson, E.B. 281–285
 Jiang, H.M. 1129–1133
 Jiang, J.F. 1129–1133
 Jiang, Q.D. 448–450
 Jiao, X.P. 94–96
 Jochemsen, R. 770–774
 Jones, A. 239–245
 Jones, D.H. 434–438
 Junren Fang 445–447
 Jutzi, W. 330–334
- Kiselev, Y.F. 52–56
 Klimenko, E.Y. 41–45
 Kahan, A. 678–685
 Kambe, S. 390–396
 Kamegawa, J. 222–229
 Kamioka, Y. 222–229
 Kamisada, Y. 581–585
 Kanetaka, H. 686–692
 Kartsovnik, M.V. 647–649
 Kase, J. 919–923
 Kashani, A. 286–291
 Keller, C. 401–409, 410–416
 Kes, P.H. 633–638
 Ketterson, A. 1134–1139
 Khandhar, P. 222–229
 Kikuchi, H. 5–10
 Kim, Y.I. 222–229
 Kirschner, I. 593–598
 Kislyak, I.F. 889–893, 894–899
 Kitazawa, K. 390–396
 Klapwijk, T.M. 1009–1013
 Kolodzey, J. 1129–1133
 Kose, V. 1074–1076
 Koshizuka, N. 390–396
 Kovachev, V.T. 348–350
 Kovacs, Gy. 593–598
 Kramer, G. 330–334
 Kranenburg, C.C. 770–774
 Krauth, H. 422–426
 Kumakura, H. 919–923
 Kumar, S. 1014–1023
 Kupfer, H. 401–409, 410–416
- Litvishkova, T.G. 56–64
 Laesecke, A. 367–370
 Lahderanta, E. 593–598
 Laiho, R. 593–598
 Lancaster, M.J. 1048–1050
 Lange, A. 263–270
 Laskar, J. 1134–1139
 Lee, J.H. 166–172
 Lee, J.M. 222–229
 Lee, J.Y. 222–229
 Lemstra, D. 856–861
 Lensink, J.G. 563–568
 Leppavuori, S. 593–598
 Lera, F. 656–659
 Levinsky, M. 451–454
 Levoska, J. 593–598
 Li, A.M. 1140–1145
 Li, C.Y. 448–450
 Li, F.H. 455–457
 Li, H.-C. 455–457
 Li, J.Y. 448–450
 Li, J. 603–605
- Li, L. 455–457
 Li, Q. 586–592
 Li, R. 521–526
 Li, S.-L. 455–457, 603–605
 Liang, J. 49–51
 Lichtenberger, K.S. 846–848
 Liebenberg, D.H. 606–610
 Linker, G. 586–592
 Linnet, C. 222–229
 Linsley, J.N. 281–285
 Liou, W. 455–457
 Liu, F.-S. 603–605
 Loegel, B. 623–627
 Logvenov, G.Yu. 647–649
 Lohle, J. 806–808
 Lukose, T.P. 700–710, 711–719
 Lowe, D.B. 467–473
 Lutovinov, V.S. 32–36
 Lvovsky, Yu.M. 754–764
- Malinowski, L. 27–31
 Marushko, S.N. 56–64
 Ma, Q.Y. 1146–1148
 Machin, K. 693–696
 Maclean, T.S.M. 1048–1050
 Maddox, J.P. 222–229
 Maeda, H. 919–923
 Maherizi, M. 451–454
 Mai, Z.M. 455–457
 Majoros, M. 697–699, 833–888
 Maksimov, I.L. 19–26
 Malinowski, L. 765–769
 Mannhart, J. 397–400
 Marigo, S. 74–76
 Marinari, C. 726–729
 Martin, T.A. 200–205
 Martinez, A. 324–329
 Martini, G. 835–839
 Masoero, A. 726–729
 Matacz, A.L. 803–805
 Mathews, D.N. 427–429
 Mathu, F. 351–355
 Matsumoto, H. 787–794
 Matsumoto, K. 5–10, 840–845
 Matsushita, T. 314–323, 390–396, 614–617
- Mattenberger, K. 806–808
 Matz, H. 330–334
 Mawatari, Y. 310–313
 Maytal, B. 211–215, 730–731
 Mazurek, B. 930–934
 McCowan, C.N. 356–364
 McLachlan, D.S. 365–367
 McN. Alford, N. 434–438, 1048–1050
 Mehtaoui, A. 623–627
 Meier-Hirmer, R. 401–409, 410–416
 Meijer, H.C. 351–355
 Meszaros, S. 660–664
 Metra, P. 576–580
 Meyer, O. 586–592
 Michael, P.C. 775–786
 Mills, G.L. 206–210
 Mintz, R.G. 46–48, 833–888
 Mitschka, C. 14–18
 Mizutani, T. 1024–1029
 Mocek, R. 65–67
 Mord, A.J. 187–192
 Morimoto, T. 919–923
 Morten, B. 726–729
 Mou, H.-L. 603–605
 Muck, M. 1149–1151
 Mueller, O. 1094–1100
 Mukai, H. 924–929
 Muller, F. 623–627
 Murakami, M. 390–396
 Murase, S. 581–585
 Muster, W.J. 799–802
- Novikov, S.I. 41–45
 Nakagawa, S. 942–946
 Nakamura, K. 611–613
 Nara, K. 952–958
 Narayankhedkar, K.G. 341–347, 700–710, 711–719
 Nemish, I.Y. 533–537
 Neuhaus, M. 330–334
 Neumuller, M.W. 639–642
 Ni, B. 614–617
 Nikitenko, V.I. 747–749
 Nissen, J.A. 211–215, 730–731, 930–934
 Nomura, S. 643–646
- Omelyanenkov, V.I. 41–45
 Obradors, X. 656–659
 Ochiai, S. 430–433
 Ogawa, K. 611–613
 Ogawa, M. 521–526
 Orlowska, A.H. 246–248
 Osamura, K. 430–433
- Pandey, R.M. 100–104
 Pattanayak, S. 116–121, 122–126, 795–798
- Paugh, R.L. 1079–1033
 Pei, J. 1129–1183
 Peiyi, W. 514–520
 Pengo, R. 74–76
 Penn, S.J. 434–438
 Petrac, D. 257–262
 Phelan, P.E. 1118–1128
 Pihol, S. 656–659
 Pires, R.G. 1064–1068
 Pizzo, L. 530–532
 Plechacek, V. 11–13, 750–753
 Pobell, F. 14–18
 Polak, M. 697–699, 883–888
 Polyanskii, A.A. 747–749
 Porjesz, T. 593–598
 Postma, H. 351–355
 Preisler, E. 639–642
 Prudenziati, M. 726–729
 Przelozny, Z. 467–473
 Pupella, F. 569–575
 Putti, M. 569–575
- Rabinowicz, E. 775–786
 Radella, P. 576–580
 Rakhamanov, A.L. 46–48
 Regan, R.J. 1088–1093
 Richards, M.G. 693–696
 Richards, P.L. 271–275
 Ricketts, J. 439–444
 Riedinger, R. 464–466
 Ries, G. 639–642
 Rillo, C. 324–329, 656–659
 Rivetti, A. 835–839
 Rizzuto, C. 569–575
 Rodriguez, J. 239–245
 Romero, J. 91–93
 Ron, X.S. 455–457
 Ross, Jr R.G. 233–238
 Rudiger, H. 292–295
 Rugaiganisa, B.M.S. 942–946
 Ruppert, U. 230–232, 255–256
 Rusby, R.L. 952–958
 Russell, G.J. 427–429, 599–602
- Sergeav, S.A. 41–45
 Silaev, V.I. 56–64
 Sirenko, V.A. 56–64
 Salama, K. 401–409, 410–416, 606–610
 Sanders, S.C. 846–848
 Santillo, C. 530–532
 Sarangi, S. 907–918
 Sastry, G.V.S. 458–463
 Sato, A. 276–280

Sato, Ken-ichi,	924-929	van Huffelen, W.M.	1009-1013	Yazawa, T.	276-280
Sauerzopf, F.M.	650-655	van Scheicoven, H.J.	856-861	Yin, B.	455-457
Schaellig, R.	173-177	van Tendeloo, G.	628-632	Yin, D.L.	448-450
Schauer, F.	866-882	van de Haar, P.G.	770-774	Yin, Z.J.	448-450
Schauer, W.	586-592	van den Berg, J.	633-638	Yoshihara, T.	942-946
Schember, H.R.	239-245	van der Ceelen, B.J.	947-951	Yoshiwa, M.	942-946
Schieber, M.	451-454	van der Drift, E.W.J.M.	1009-1013	Yu, X.	1129-1133
Schmidt, C.	501-510	Vaccarone, R.	569-575	Yuan, S.W.K.	184-186, 222-229
Schoele, M.	255-256	Vad, K.	660-664	Zandbergen, H.W.	628-632, 633-638
Schroder, T.A.M.	563-568	Van Duzer, T.	980-995, 1014-1023	Zang, G.F.	1129-1133
Schweikle, J.D.	222-229	Van Sciver, S.W.	211-215, 730-731	Zarubin, L.I.	533-537
Scurlock, R.G.	483-500, 1101-1103		930-934, 935-941	Zeller, A.F.	545-546
Seidel, A.	173-177	Van Zeghbroeck, B.J.	1084-1087	Zhongqi, C.	514-520
Selvamanickam, V.	401-409,	Vasek, P.	511-513	Zhou, B.L.	451-454
	410-416, 606-610	Veitch, P.J.	803-805	Zhou, D.	734-735
Serafini, D.	97-99	Velichkov, I.V.	527-529, 538-544	Zhou, L.	603-605
Shaowei, Z.	514-520	Venkataratnam, G.	576-580	Zhou, Y.	49-51
Shields, T.	439-444	Vigliotti, D.P.	907-918	Zhu, W.	49-51
Siewert, T.A.	356-364	Vinen, W.F.	356-364	Zoli, M.	731-734
Silsbee, R.H.	1069-1073	Vlasko-Vlasov, V.K.	439-444	Zsolt G.	593-598
Simoen, E.	1051-1055, 1152-1159	Vogt, O.	747-749		
Siri, A.	569-575	Vote, F.C.	806-808		
Smeibidl, P.	14-18		222-229		
Smith, T.F.	467-473				
Snyder, H.A.	187-192	Wachter, P.	806-808		
Soifer, K.Y.	647-649	Wang, F.R.	448-450		
Soloski, S.C.	222-229	Wang, J.S.	94-96		
Spivak, A.L.	286-291	Wang, J.	1113-1117		
Stapleton, S.P.	1140-1145	Wang, N.L.	94-96		
Suaudeau, E.	77	Wang, R.L.	455-457		
Suehiro, J.	787-794	Wang, S.Z.	448-450		
Suhui, Hu.	445-447	Wang, S.	1129-1133		
Sullivan, N.S.	734-735	Wang, T.-C.	603-605		
Sunli, H.	862-865	Wang, Y.G.	94-96		
Suter, J.J.	547-548	Wanner, M.	292-295		
Suter, T.	230-232	Webb, R.	1101-1103		
Suzuki, H.	1005-1008	Weber, H.W.	650-655		
Szmyrka-Grzebyk, A.	533-537	Weisend II, J.G.	935-941		
Szucs, Z.	230-232, 255-256	Wellhofer, F.	439-444		
Takayama, T.	430-433	Wener, H.G.	65-67		
Takeo, M.	686-692	White, H.	365-367		
Tanaka, T.	390-396	Wiech, U.	401-409, 410-416		
Tanaka, Y.	5-10	Wiegers, S.A.J.	770-774		
Tang, Y.S.	1129-1133	Wiesinger, H.P.	650-655		
Tasaki, K.	686-692	Wilcox, R.A.	286-291		
Taylor, K.N.R.	427-429, 599-602	Willekers, R.W.	351-355		
Tenbrink, J.	422-426	Windte, V.	586-592		
ter Brake, H.J.M.	324-329	Woo, J.C.S.	137-140		
Terzijska, B.M.	348-350	Woodhouse, C.E.	286-291		
Thirumaleshwar, M.	100-104	Wordenweber, R.	458-463		
Tien, C.L.	1118-1128	Worthington, T.K.	417-421		
Timbie, P.T.	271-275	Wu, X.Z.	603-605		
Tishin, A.M.	127-136, 720-725	Wu, Z.	1048-1050		
Titcomb, S.L.	1064-1068	Xi, X.X.	586-592		
Togano, K.	919-923	Xiaowen, C.	862-865		
Town, S.L.	427-429	Xiong, G.C.	448-450		
Trejbalova, Z.	750-753	Yuriyev, V.P.	56-64		
Tsach, T.	451-454	Yamada, Y.	643-646		
Tsuei, C.C.	397-400	Yamafuji, K.	310-313, 686-692		
Turygin, A.Yu.	32-36	Yamamoto, J.	276-280		
Tutzauer, H.	97-99	Yamamoto, K.	581-585		
Ueyama, M.	924-929	Yamanda, Y.	581-585		
Uno, N.	5-10	Yan, Z.X.	1160-1165		
Urbach, A.R.	206-210	Yang, E.S.	1146-1148		
Uusimaki, A.	593-598	Yang, Y.	618-622		

Conference reports

Third International Workshop on Low Temperature Detectors L'Aquila, Italy, 20-23 September 1989
 S.E. King, D. Van Vechten and G.W. Phillips 555-556
 Low temperature electronics: semiconductors-superconductors Berkeley, California, USA, 23-26 April 1990
 C.L. Claeyns 901

Book reviews

Near Zero: New Frontiers of Physics, edited by J.D. Fairbank, B.S. Deaver Jr., C.W.F. Everitt and P.F. Michelson J. Gerhold 737
 Physical Properties of High Temperature Superconductors I, edited by D.M. Ginsberg H.W. Weber 737-738
 Superconducting Electronics, edited by H. Weinstock and M. Nisenoff H. Koch 738
 Cryopumping: Theory and Practice by R.A. Haefner B.A. Hands 972

Conference previews

(Section in special conference issues including conference programs and exhibition preview)
 1990 Applied Superconductivity Conference, Snowmass Village Resort, Snowmass, Colorado, USA, 24-28 September 1990
 809-830